International Journal of Research Publication and Reviews

A Study on Consumer Preferences for Mahindra Xuv300

Mukthashree J B

PES University

ABSTRACT

According to 2022 statistics, India's secures fourth rank in automobile sector in terms of production. But In recent years, the automotive industry has been facing slowdown in their sales, but the compact SUV is an exception. In some recent articles, we found that there is an increase in the sales of compact SUVs. Compact SUV is a small vehicle with high ground clearance. In this paper, we are going to find out which factors have influenced them to buy compact SUV.

In this paper, Factor analysis and multiple linear regression have been conducted. In order to reduce variables and group the similar variables, factor analysis was conducted. Using SPSS software, multiple linear regression was conducted to find out which explanatory variable had more impact on decision variable or buying behavior of the customers. The data was collected by circulating a Google form among families, friends and other people to know their preferences towards Mahindra XUV300. The result shows that these variables like safety, price, look etc have a greater impact on buying behavior of customers.

Keywords: Compact SUV, Mahindra XUV300, Factor analysis, MLR

Introduction

Mahindra & Mahindra is one of the largest automotive manufacturing companies in India, which is headquatered in Mumbai. It was established as Mahindra and mohammed in 1945. Later India gain independence, mohammed emigrate to Pakistan, then it renamed as Mahindra and Mahindra. They offer wide range of vehicles from commercial and utility vehicles to electric vehicles in this particular sector. The company gain fame all over world due to their commitments towards innovation, responsibility towards society and sustainability.

The original model code for XUV300 is S201. It resembles the Ssangyong Tivoli subcompact crossover SUV made by Ssangyong motor company, but it was majorly altered to fit Indian market conditions and road. There are major difference between Tivoli and XUV300 in terms of dimensions, looks, interior and engine.

When it comes to Mahindra XUV300, it is a compact SUV that stands out in this market for its design, performance and its features. This car was launched in Feb 2019. It has powerful engine which provides exciting driving experience and also known for its performance on a variety of surfaces which makes suitable for both on road and off road exploration.

For Mahindra, safety is the top priority and XUV300 is fitted with a number of safety measures such as airbags, ABS with EBD and advanced braking system. This car was tested with some basic specifications like 2 airbags and standard ISOFIX anchorages. It scored 5 stars for adult safety and 4 stars for child safety in Global NCAP testing in 2020.

Factor analysis is used for data reduction. When we collect data there will be a n number of variables. In order to group the similar variables, this technique is useful. This helps to solve the Multi linear regression easily. In the Multilinear regression, we can find out that which factor impacts more on response variable. In this paper, both MLR and factor analysis are used.

2020 Mahindra XUV300 RHD (2 airbags)	
Global NCAP scores (2020)[10]	
Adult Occupant stars	★★★★★
Adult occupant score	16.42/17.00
Child Occupant stars	★★★★☆
Child occupant score	37.44/49.00

Literature review

(Bahl, Lakshya, 2022)

This study was conducted to understand the customer preferences towards SUV's and they were trying to find out the reasons for growth of SUV's, because this is one of the fastest growing markets in the automobile sector. They conducted survey to know the attributes which majorly influence the customers to buy SUV's. Here they use primary data to conduct this project.

(Rakesh Kumar, 2013)

The author explained about the automotive industry and the author circulated the questionnaire to get the answers regarding brand preferences, loyalty towards brand, impact of quality and price in the market for four wheelers and also their preferences while choosing the dealers and also mode of payments etc.

(Dr.R.Krishna Kumari and C.Saranya)

The authors try to find which company cars are preferred by people in India and what are the factors that influence the buying behavior of consumers. From 150 Indian brand car owners the data is been collected through systematic sampling method which shows that Tata and Mahindra are the most preferred by people for its Quality, after sales service and brand name.

(R. Abirami, S.Vinnarasi, R.Nalini 2019)

The author discussed about the SUVs, this was designed for forest workers and those who work in remote areas in early stages. Recent years, there are many models of SUV's ae being launched. Based on this, the authors try to find out the factors influencing the buying behavior of the customers and the needs for brand to compete in the growing market.

(Prof. A. P. Sonawane, Prof.Dr. Yogesh V. Torawane 2020)

This study is all about how individual make decision on purchasing fourwheeler. They try to get answers for their questions regarding brand loyalty, price, quality etc and also their preferences regarding dealer and payment mode in dhule district. From the result, we observed that demand for Mahindra and maruthi Suzuki cars are higher in rural areas when compared to urban areas.
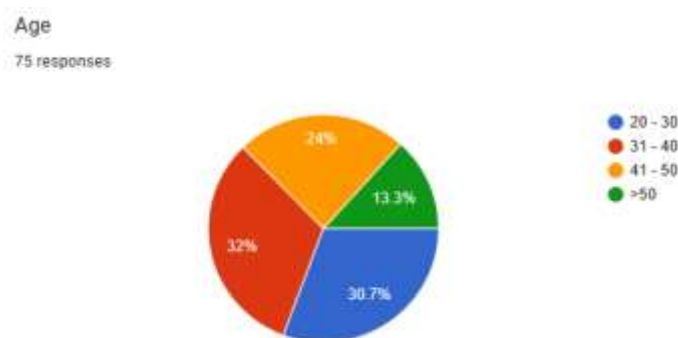
Objective

This study helps to know the consumer preferences towards Mahindra XUV300.

This study also helps to identify the factors that have greater impact on buying behavior of the Mahindra XUV300.

Methodology

In order to know the consumer preferences about products, primary data collection plays a major role. Here the primary data has been collected by circulating the questionnaire among friends and families who know about compact SUV's. The data was received from 75 members. Many researchers already conducted the surveys on consumer preferences about Mahindra XUV300 to know the preferences of the customers. Here different variables have been collected in the form of scales to measure the data. In order to get results, MLR and factor analysis was used.
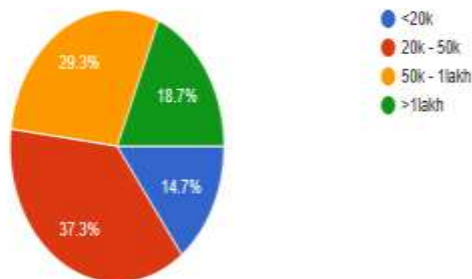

Age
75 responses

- 20 – 30
- 31 – 40
- 41 – 50
- >50

24%
13.3%
32%
30.7%

Gender

75 responses

- Male
- Female
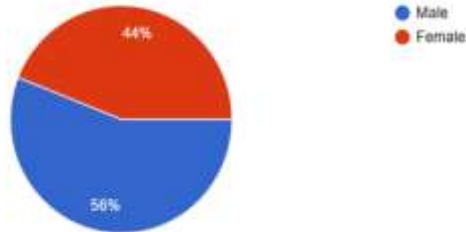
Income

75 responses

- <20k
- 20k - 50k
- 50k - 1lakh
- >1lakh

Results and discussion

Using SPSS software, factor analysis has been done.

Correlation Matrix

		viaualyappea ling	Drivingexperi ence	fueleficiency	price	brandimage	safetyfeatures	Aftersaleservi ce	Interiorcomfor t	Technologyup todate	Recommend ation
Correlation	viaualyappealing	1.000	.194	.308	-.011	.199	.232	.154	.035	.296	.465
	Drivingexperience	.194	1.000	.202	.105	-.012	.005	.054	.345	.286	.260
	fueleficiency	.308	.202	1.000	.051	.173	.254	.035	.035	.039	.108
	price	-.011	.105	.051	1.000	.168	.120	.203	.126	-.041	.041
	brandimage	.199	-.012	.173	.168	1.000	.072	.104	.041	.167	.262
	safetyfeatures	.232	.005	.254	.120	.072	1.000	.012	.319	.006	.192
	Aftersaleservice	.154	.054	.035	.203	.104	.012	1.000	.149	-.022	.035
	Interiorcomfort	.035	.345	.035	.126	.041	.319	.149	1.000	.248	.092
	Technologyuptodate	.296	.286	.039	-.041	.167	.006	-.022	.248	1.000	.211
	Recommendation	.465	.260	.108	.041	.262	.192	.035	.092	.211	1.000

In correlation matrix table, the correlation between each variable is shown.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.536
Bartlett's Test of Sphericity	Approx. Chi-Square	94.872
	df	45
	Sig.	<.001

Here the kmo value is 0.536. This is more than 0.50 then there is a presence of a mediocre partial correlation. Kmo test is used to test the sample adequacy. Here the sample is adequate. Hence it is plansible to conduct the factor analysis. By doing Bartletts test of sphericity, we found out that the significance value is less than 0.05. Here the null hypothesis tells that the correlation matrix is an identity matrix. The significance value is less than 0.05, hence null hypothesis is rejected. So correlation matrix is not an identity matrix and is suitable for factor analysis.

Communalities

|	Initial	Extraction
viauallyappealing	1.000	.651
Drivingexperience	1.000	.588
fuelefficiency	1.000	.489
price	1.000	.591
brandimage	1.000	.522
safetyfeatures	1.000	.754
Aftersaleservice	1.000	.519
Interiorcomfort	1.000	.742
Technologyuptodate	1.000	.613
Recommendation	1.000	.542

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.363	23.627	23.627	2.363	23.627	23.627	1.781	17.806	17.806
2	1.291	12.912	36.538	1.291	12.912	36.538	1.584	15.836	33.642
3	1.253	12.530	49.068	1.253	12.530	49.068	1.343	13.428	47.070
4	1.105	11.048	60.115	1.105	11.048	60.115	1.305	13.046	60.115
5	.917	9.165	69.281						
6	.871	8.712	77.993						
7	.791	7.909	85.902						
8	.643	6.426	92.328						
9	.393	3.930	96.258						
10	.374	3.742	100.000						

Extraction Method: Principal Component Analysis.

Here the eigen values represents how many items that each variable fully explains. For example the first variable explains 2.363 items fully. We only extract factors of eigen values which is more than 1. So here there are only 4 factors.
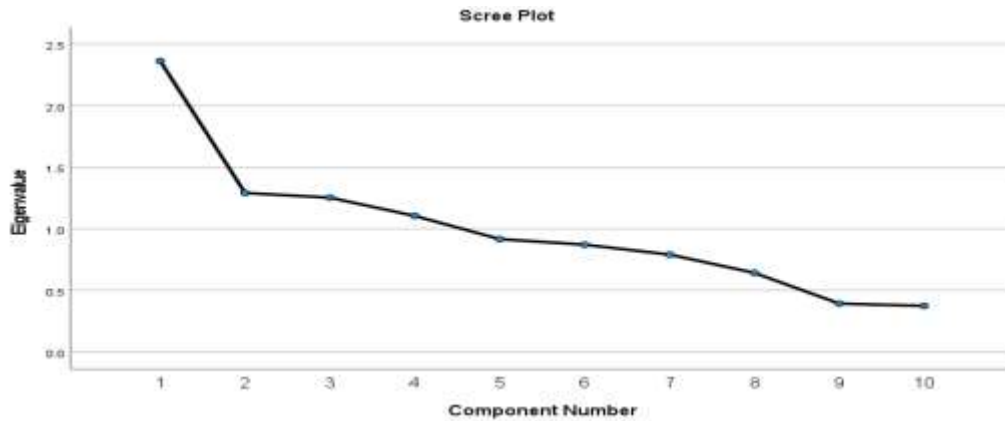
Scree plot visually shows that how much information that factor captures. Consider the number of factors before curve flatters. Here there are 4 factors considered.

Component Matrix[a]

	Component			
	1	2	3	4
viauallyappealing	.687			
Recommendation	.643			
Drivingexperience	.539		-.535	
Technologyuptodate	.504		-.470	
fuelefficiency	.466			-.402
price		.643		
Interiorcomfort	.468	.507	-.482	
Aftersaleservice		.486		.418
brandimage	.425		.441	
safetyfeatures	.453			-.666

Extraction Method: Principal Component Analysis.
a. 4 components extracted.

Component matrix explains correlation between each variable in five factors. The variables are highly loaded on factor 1.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
viauallyappealing	.754			
Recommendation	.696			
brandimage	.595			
Interiorcomfort		.749		
Drivingexperience		.747		
Technologyuptodate	.425	.606		
safetyfeatures			.858	
fuelefficiency			.607	
price				.757
Aftersaleservice				.708

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

In this related component matrix, varimax rotation method has been used. This method used to minimize the variables that have high loadings on each factor and simplifies the interpretation of factors.

Multiple Linear Regression

In order to know, which factors are mainly influencing the buying behaviour of the consumers. We use MLR method. Here the dependent variable is they prefer buying or not and the independent variables are Looks, comfort, budget friendly and safety etc.

Here null hypothesis is there is no impact of independent variables on dependent variables and alternative hypothesis is there is an impact of independent variables on dependent variables.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.530[a]	.281	.239	1.142	2.224

a. Predictors: (Constant), Budgetfriendly, Safety, Comfort, Look

b. Dependent Variable: Do you prefer buying Mahindra XUV300

In the above table, the Durbin Watson value is 2.224. This test is used to find the autocorrelation. Here the value is more than 2, this means there is negative autocorrelation in the sample.

The R square value is 0.281. Here 28 percent of variations in dependent variable (prefer buying) is explained by independent variable.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.159	4	8.790	6.740	<.001[b]
	Residual	89.977	69	1.304		
	Total	125.135	73			

a. Dependent Variable: Do you prefer buying Mahindra XUV300

b. Predictors: (Constant), Budgetfriendly, Safety, Comfort, Look

In the above table we can see that the significance value is less than 5 percent, and then this model is fit.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.108	.133		23.414	<.001
	Look	.544	.134	.416	4.073	<.001
	Comfort	.192	.134	.147	1.440	.155
	Safety	.180	.134	.138	1.347	.182
	Budgetfriendly	.340	.134	.260	2.546	.013

a. Dependent Variable: Do you prefer buying Mahindra XUV300

The equation

Prefer buying = 3.108 + 0.544* x1+0.192*x2+ 0.180*x3+0.340*x4

Here x1 = Look, x2 = comfort, x3 =Safety, x4 = Budgetfriendly

This means if there is increase in safety by 1unit, there is 0.180 times increase in the buying behavior of customers.

Findings

In this paper, we found out that the model is fit. Here we reject null hypothesis and accept alternative hypothesis. There is a significant impact of independent variables i.e looks, , budget etc on buying behavior of customers (dependent variable) . Safety and comfort does not impact significantly on buying behavior of the customers.

Conclusion

In conclusion, Mahindra is one of the established brands in India. There are many variables that impact on buying behavior of customers like technology, safety, online influencers, Recommendations, price, comfort, interior design etc etc. In this study, we found out that looks, budget etc are the variables which mainly impact the buying behavior of the customers. It also found that safety and comfort does not impact significantly on buying behavior of the customers.

References

Kumar, R. (2013). Consumer Behaviour in Four Wheeler Industry–A Case Study of Himachal Pradesh. *Asian Journal of Multidisciplinary Studies*, *1*(5), 155.

BAHL, L. (2022). *ANALYSING CONSUMER PREFERENCES AND MOTIVATION TO PURCHASE IN THE COMPACT SUV SEGMENT MARKET IN INDIA* (Doctoral dissertation).

Kumari, R. K., & Saranya, C. A STUDY ON CONSUMER PREFERENCE TOWARDS INDIAN BRAND CARS. *Profession*, *11*, 7-3.

SONAWANE, A., & Torawane, Y. V. CONSUMER BEHAVIOR REGARDING PURCHASING

Kowsalya, P., & Raj, S. V. (2023). A STUDY ON CONSUMER SATISFACTION TOWARDS MAHINDRA BOLERO WITH SPECIAL REFERENCE TO NAMAKKAL CITY. *EPRA International Journal of Multidisciplinary Research (IJMR)*, *9*(5), 93-96.